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NATIONAL AGRICULTURAL LIBRARYSOME THOUGHTS ON THE POSSIBLE EFFECTS OF
ADVERTISING AND PROMOTION ON PRICE ELASTICITY OF DEMANDDEC 1 - 1965
CURRENT SERIAL RECORDS

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I. Introduction

In the economic literature on advertising and promotion, little has been said about the effect of such practices on the price elasticity of demand. Where reference is made, it is generally inferred that the objective or result is decreased elasticity.^{1/} The actual effect, however, may be more difficult to predict than is at first apparent.

If it is assumed that advertising and promotion influence demand, it is possible to suggest several ways in which they might also influence elasticity. To be more specific, they might initially: (1) cause a movement along the existing demand curve, (2) cause a parallel shift of the demand curve to the right, (3) cause a change in slope of the demand curve, or (4) cause a combination of (2) and (3). Each of these movements in turn may have different influences on elasticity of demand.

It will be the purpose of this paper to graphically outline the ways, as noted here, in which advertising and promotion could influence elasticity of demand -- either to increase or decrease it. Possible policy implications will also be briefly noted. The presentation is not intended to be final or complete; rather, it should be viewed as a set of preliminary notes (a more comprehensive treatment would involve, among other things, a more explicit treatment of the supply function).

II. Theoretical Effects

I will make use of simplified models to demonstrate the three distinct courses advertising and promotion might take in influencing elasticity.

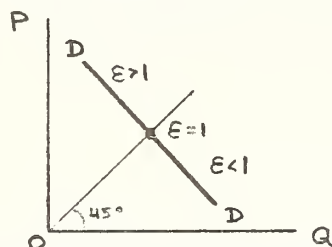
A. Movement Along Existing Demand Curve.

Assume a demand curve where price elasticity of demand varies at different points: elasticity is greater as one moves up the demand curve and decreases

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^{1/} See, for example, the recent statement by William Hoofnagle at the workshop on Agricultural Market Development and Promotion in Berkeley, June 21, 1965. While I do not know of any published statements to the contrary, at least one economist has personally expressed his doubts that the general result is decreased elasticity.

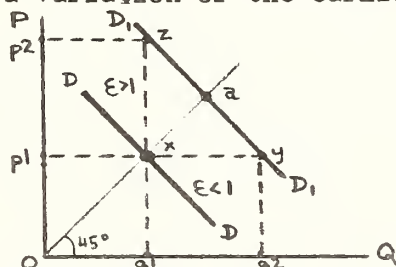
as one moves down the curve.^{2/} For purposes of presentation, further postulate a demand curve including elastic, unitary, and inelastic portions. This is shown in the following diagram:



Then assume that the net effect of advertising and promotion is only to influence position on the curve.^{3/} For them to result in a decrease in elasticity of demand, a movement would have to be made down the curve. Conceivably this could go so far as to result in a change from an elastic to a unitary, or to a inelastic situation. If a move were made up the curve, however, the situation could be reversed.^{4/}

B. Parallel Shift of Demand Curve

Alternatively, advertising and promotion might shift the demand curve to the right in a parallel manner. In this case the effects on elasticity are more complex. Consider a variation of the earlier diagram:



The effects of a shift in demand (D to D_1) could be interpreted in different ways, depending on whether price or quantity were held constant.

--Price constant ($E_s = \infty$). Assume point x on the original demand curve as determined by p_1 and q_1 ; here we are at the point where demand is of unitary elasticity. With a shift in demand to the right, and price held constant, we move to point y ; here demand is inelastic.

^{2/} Such a curve is not (1) one of unitary elasticity (a rectangular hyperbola) or a (2) one with greater slope above the point of unitary elasticity or lesser slope below this point. This matter is demonstrated graphically in Dana G. Dalrymple, On the Nature of Marketing Margins, Michigan State University, Agr. Econ. 824, April 1961, pp. 9-13.

^{3/} Such a movement, of course, does not represent an increase or decrease in demand. Therefore, those investing in advertising and promotion might not consider it a desired effect unless they are seeking only a change in elasticity (this latter point is discussed in section III. p. 4).

^{4/} The extent to which these movements could actually take place would depend on the nature of the supply curve.

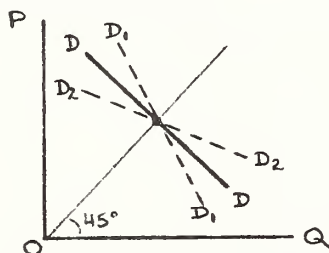
--Quantity constant, ($E_s=0$). Again start at point x on the original demand curve--a position of unitary elasticity. With an increase in demand, but with quantity held constant, we move to point z. Here demand is elastic.

--Neither constant ($E_s \neq \infty$ or 0). A more common situation would be for both price and quantity to vary. If they both varied equally there might be no effect on elasticity; this could be shown by a movement to point a. More generally though, one might be expected to change more than the other; the effect on elasticity then would be less than indicated above but in the same direction.

Thus for advertising and promotion to result in a decrease in elasticity of demand where there is a shift in demand to the right, we would have to assume a situation where price is held constant to a greater degree than quantity.

C. Change in Slope of Demand Curve

A third alternative is a shift in slope of demand curve. For demonstration purposes, assume a demand curve of the previous nature which is pivoted at the point of unitary elasticity.



A shift to a more vertical curve (D_1) would mean a general decrease in elasticity; if the curve were perfectly vertical it would be completely inelastic ($E=0$). Conversely, a shift to a more horizontal curve (D_2) would mean a general increase in elasticity; a completely horizontal curve would be completely elastic ($E=\infty$).

Thus for advertising and promotion to lead to a decrease in elasticity of demand when a change in slope is involved, the shift would have to be a more vertical curve.

D. Summary

This rather simplified presentation has suggested that conceptually advertising and promotion may have one of three general effects on demand: (1) influence position on the existing demand curve, (2) bring about shift of demand, (3) lead to change in slope of the demand curve, or (4) a combination of (2) and (3). These modifications could conceivably lead to increases, no change, or decreases in the price elasticity of demand. A priori specification of what effect, if any, a particular advertising and promotion program might have, therefore, could be more difficult from a theoretical point of view than is immediately evident.

III. Policy Implications

From an empirical point of view, the important objective of advertising and promotion is to increase revenue. This is generally considered to be accomplished by increasing demand (moving the demand curve to the right). Changes in elasticity are normally an associated but less important feature. For most agricultural products it would probably be difficult to significantly change elasticity through advertising and promotion. And because of fluctuations in production through natural and other factors, it might be difficult to make use of changed elasticities in bringing about increased revenue.

Nevertheless, if an agricultural group were to adopt change of elasticity as a goal, it might be well to be clear as to what direction would be more appropriate. In terms of a commodity group with close control over quantity (of which there are few), a decrease in elasticity might be desired. But in the more usual case where there is a little control, and where there is a strong tendency for overproduction of a good with an inelastic demand, a more elastic demand might be desired. In this case, however, the longer-run effect on production and cost functions would have to be considered.

Just what kind of advertising or promotion program could be said to bring about either change in elasticity is not clear.